MT175

Video Borescope
User Manual

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1.Safety Tips

Before using the instrument, read all safety information and specification of the video borescope carefully.

1-1.Application

- Detect the inside parts of machinery (such as cars, ships, aircraft, heavy machineries) to check whether it is working normally.
- Apply the gooseneck with camera underwater to check the object in the water (such as Drainage works).
- Applied in supervision cases (such as rearview mirror of the cars).
- Applied in wild adventure.

1-2.Maintenance and cleaning

- Repair or maintenance should be operated only by qualified professionals.
- Please clean the camera after use, and no detergents should be used in cleaning.

1-3.Safety Sybomls

- Satisfied with European CE safety standards.

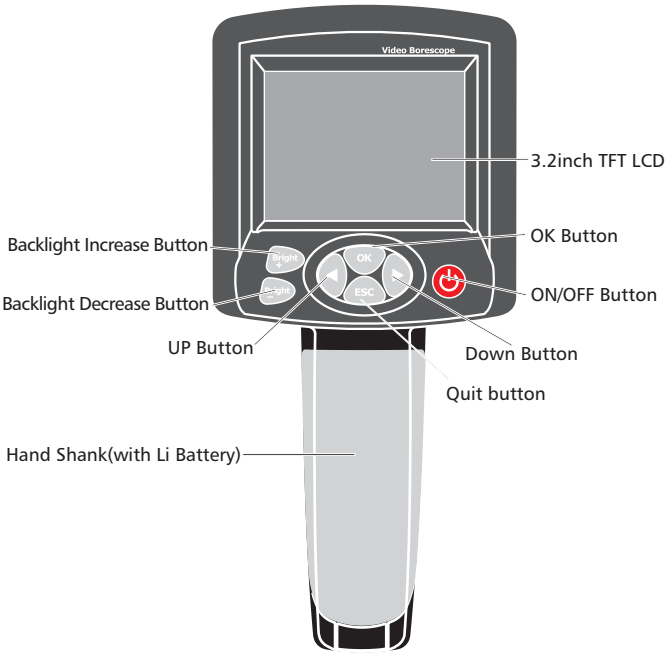
2.Function Description

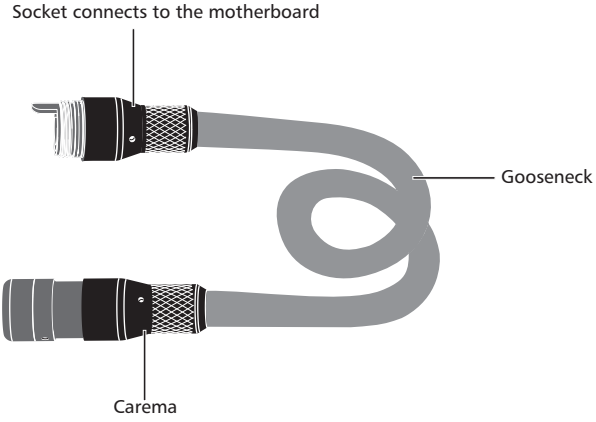
- On-site inspection of photos and videos
- Images rotation by pressing up and down buttons under video mode
- Images display with current time and date
- Single image or video deletion
- Image and video recording
- Display with time and date
- SD Card (32GB)
- Flash Card (8GB)
- Built-in 65M Flash Capacity
- TV-OUT
- Video Format (MP4,AVI,3GP,ASF)
- Image Photo Format (JPG,JPEG)
- Languages: English, French, German, Spanish, Turkish
- Support operation in dark environment (with four LED lights)
- USB charging(Li battery)
- USB2.0 connection to computer

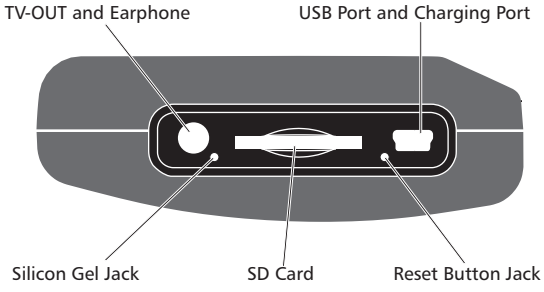
3.Specification

Display Sceen	3.2 inch TFT
Display Pixel	240(RGB) *320
Photosensitive Devices	1/4 inch CMOS
Sensor Pixel	640*480
Photo Resolution	640*480
Maximum Number of Frames (FPS)	30FPS/S
Color Digit(bit)	24
Focusing Distance	Fixed at 5-15cm
Goosenneck Length	1m(2m/3m selectable)
Camera Diameter	17mm
Video Format	MPEG4/3GP/AVI/ASF
Photo Format	JPEG
Camera Video Format	3GP
Saved Image Format	JPG(640*480)
SD Card	MAX 32GB
Flash Memory	MAX 8GB
Working Voltage	Li battery 3.7V/2000mA
Video Working Current	Approx.380mA
Static Current	MAX 20UA
TV-OUT	PAL/NTSC system
Operating Temperature	0～55℃
Charging Temperature	0～50℃
Storage Temperature	-20～60℃
Storage Humidity	15% to 85%RH
Data Output	USB data cable and SD card
Power Supply	a 3.7V,2000mA/h battery(1860)
Size(L,W,H)	240mm*100mm*160mm
Accessories	user manual, 3.7V lithium battery, package box, USB cable, DC5V charger, video output cable, CD, mirror & hoop etc.

4.Name and Function




Socket connects to the motherboard
Gooseneck
Carema


TV-OUT and Earphone
USB Port and Charging Port
Silicon Gel Jack
SD Card
Reset Button Jack

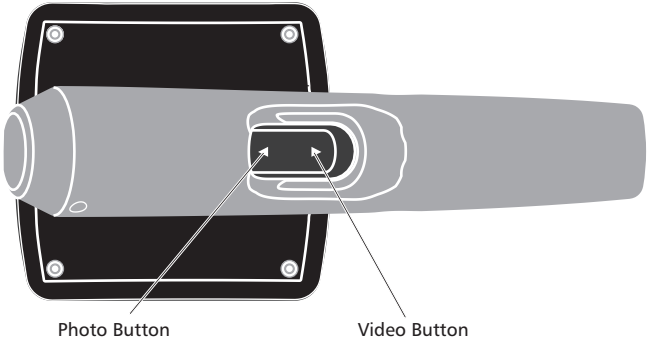
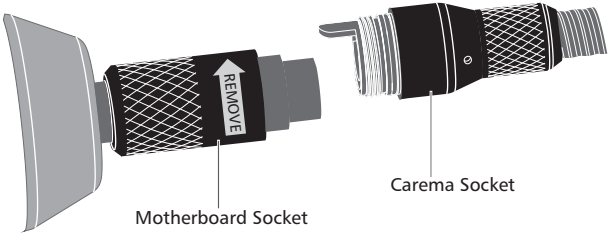


Photo Button
Video Button

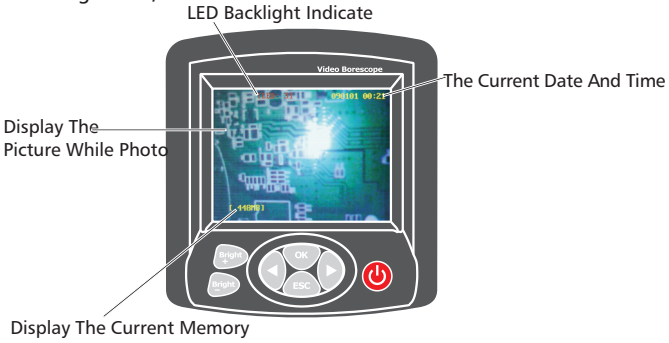

REMOVE
Carema Socket
Motherboard Socket

5.Operation

1.Operation Under Video Mode

1-1.Power ON/OFF

Hold the power button for three seconds to enter into camera scanning mode, as follow:



Hold on the power button for three seconds to colse the instrument.

1-2.Adjust The Brightness of CMOS

In the above camera scanning mode, adjust the LED light built in the head of the gooseneck to realize the operation in different circumstances. Increase the backlight level by each press on the "BRIGHT +" button until brightest and backlight level displays on the top left corner of the screen. Decrease the backlight level by each press on the "BRIGHT-" button until turn-off. (10 stands for the brightest, 0 for the most dark and the LED goes out when 0.)

1-3.Rotate Images

In camera mode, press up/down button to adjust the angle on the screen to get a suitable image displayed. Image angle can be rotated from 0° to 180° with up/down button, which will greatly facilitate the detection.

1-4.Image
In camera mode, each press of the "SNAP" button will save an image, (Enter into "Date/Time" in the System setup/time menu, the current time and date will display on the saved image. Enter into "Close Date /Time" in the same menu, no current time and date will display on the saved image.)

1-5.Video
Under video mode, hold the "RECORD" button for three seconds to enter into the video mode with a video symbol displaying and flickering on the top left side of the screen. Meanwhile, a dynamic memory capacity will be displayed at the left bottom indicating the current available memory capacity. When the capacity was used up, a dialog box will appear to advice of insufficient memory capacity. Preserve the current video file by pressing "RECORD" button. The video can be played in "System setup\Explorer\video player" menu.

1-6.System Setup
Press "OK" button under camera mode to pop up a "MENU" dialog box.
Select "Yes" with the left/right button, and then press "OK" button to enter into Main Interface "System Setup".

2.System Set
2-1.Under the camera scanning mode, press "OK" button, and the following dialog box pops up.

Press Right / Left button to move the cursor to "YES", then press "OK" button to enter into system setting, as follows:

2-2.Right/Left button

- Press the Right button, the cursor turns to right; Left button to left. All of the icons could be select circularly with the Right/Left button.
- In "Image" and "Video" selection interface, the Right/Left button is used in up and down selection.

2-3.Language Setting

System Setup/Language/"OK" button, enter into Language Setting. Select different languages with Right/Lest button, then press "OK" button to save the language setting and return to main interface. Press "ESC" button to quit to the camera mode.

2-4.Time Setting
System Setup/Time/"OK" button, enter into Time Setting.

Move the cursor with Right/Left button to the functions you want to set up, then press "SNAP" and "RECORD" to adjust the date and time. Select "OFF" on "Time" interface to end up the Time and Date display both on the "System Setup" interface and in the camera mode. Press "OK" button to save the time setting and return to main interface or press "ESC" to back up to camera mode.

2-5.Automatic Shut Down Setting.
System Setup/Auto Off/"OK" button, enter into Automatic Shut Down Setting.

"Never": Turn off the auto-off function.
"3Min/15Min/60Min": The instrument will turn off upon 3min/15min

/60min non-operation.
"Exit": Back up to the Main Menu
"OK" button: Save automatic shut down setting and return to Main Menu. Auto-off function will not be activated when recording or playing video.

2-6.TV-OUT
System Setup/TV-OUT/"OK" button, enter into TV-OUT Setting.
Insert the TV-OUT video cable into the earphone, and plug the other side of the cable into the TV VIDEO, both left channel and right channel (yellow for VIDEO, the red and white for left and right channels)

Select the "NTSC" or "PAL" respectively in accordance with the video format of television, and press "OK" button to enter. The content will still be controlled with the instrument but displayed on the television. System setup\TV-OUT\LCD output\"OK" button, to escape TV-OUT function and return to LCD display. If "NTSC" or "PAL" is selected with no video cable connecting to the television, long press the "power" button to turn off the LCD display and press again to turn on.

2-7.Memory Options
System Setup/Memory/"OK" button, enter into Memory Options.

Press "SNAP" and "RECORD" to select the current memory medium (SD/Flash), select "Work space" and press "OK" button to confirm. If formatting operation is needed, select "Format" then press "OK" button, a dialog box will pop up and "Yes" should be selected to complete formatting.

2-8.Picture And Video Explorer
System Setup/ Explorer/"OK" button, enter into Explorer.
"Video Player" and "OK" button: videos interface.
"Picture View" and "OK" button: Picture interface.
Press "ESC" to return to Explorer from picture and video playing.
In the video/ Picture directory, press "BRIGHT +" button to delete the current video or photo(each press deletes one photo or video).

Video Player

Picture View

2-9.Setting

System Setup/Set/"OK" button, enter Setting.

Press "SNAP" and "RECORD" button to increase or decrease the value to adjust the effect of the camera. (The adjustment will produce a slight effect and only can be identified in the camera mode. This adjustment is not suggested for the instrument has been best calibrated before delivery. Press "Default" to return to the best-calibrated default value.)

2-10.Saving Power Mode
Set the corresponding time under the saving power mode, and the display screen will turn off as the main menu stays for the corresponding time, while the system of the meter is still working. It won't effect under the video mode or browsing files mode. Press any button shortly, it will display the main menu again.

2-11. Exit Mode
In any setting in the system interface, press "ESC" button to turn back to the video interface.

6. Connection to Computer

Connect to the computer with the USB cable, the instrument will auto power on. Copy and Deletion is available by computer operation, while buttons of the instrument are locked until disconnecting the USB cable. Meanwhile, LCD displays USB icon for 2s and then the LCD automatically turns off. The LCD lights up again when USB cable is disconnected or charging is completed.
Remark: Connect to the USB cable under any mode of Power off, System Setup main menu, any submenu or camera interface, the instrument will be connected to PC in above way.

7. Charging

- Connect to DC5V/1A charger, the instrument is auto-on and enters into System Setup interface with a battery icon flickering on the top right corner indicating battery charging. The icon will stop flickering when charging is completed.
- All the buttons are locked and remain unavailable while battery charging. Disconnecting the USB cable will release the buttons.

8. Reset function

If system halted unexpectedly, please press the RESET button on the leftside of the instrument, thence, it will be reset. Instrument can be operated normally after power on it again.

9. Notices

- The gooseneck should not be bend to a diameter less than 5 inch, or it will be irreparable.
- Take out the battery when the instrument is not in use for a long time to avoid corruption caused by the battery fluid leakage.
- Clean the camera before operation.
- Use 3.7V Li battery.
- To avoid electrical shock, the instrument and gooseneck should not contact with high voltage objects during operation.
- To avoid instrument damaged and user injured, the gooseneck cannot be inserted into the rotational gear wheel.

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